

Supplemental table 1. Ingredient lists of snack bar and puffed cereal

ready-to-eat products	ingredients
snack bar	flaked groats of commercial oat-1, granulated sugar, canola oil, refined corn syrup, salt regular, sodium bicarbonate, lecithin, and water
puffed cereal	whole grain oat flour of commercial oat -2, granulated sugar, corn starch, regular salt, and calcium carbonate

Supplemental Table 2. Bound phenolic content from different oat cultivars

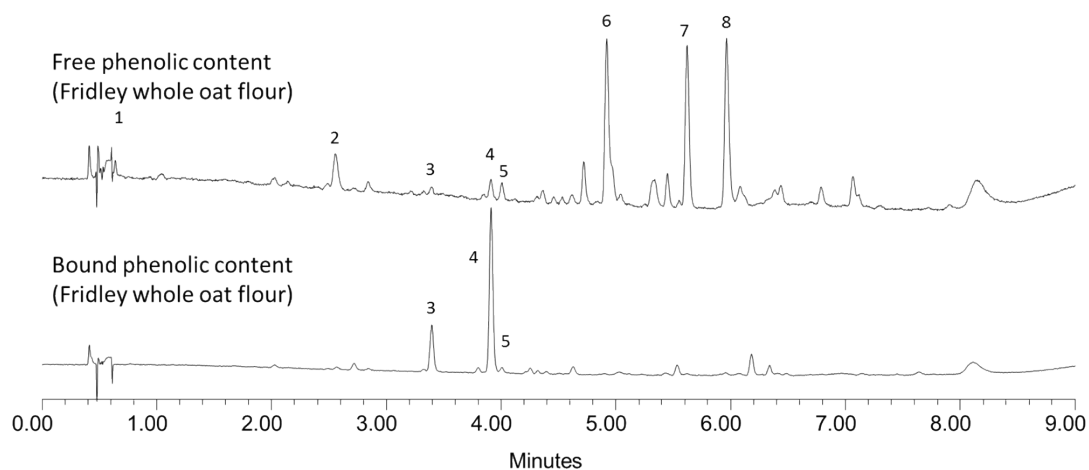
name	phenolics content (µg/g of DW)			
	<i>p</i> coumaric acid	ferulic acid	sinapic acid	Total
commercial oat-1	42.8 ± 14.5cd	159.3 ± 54.6cde	2.5 ± 0.8c	204.6de
commercial oat-2	79.8 ± 12.5bcd	136.6 ± 8.4de	2.3 ± 0.4c	218.7cde
Dancer	51.5 ± 7.5cd	241.5 ± 7.9bcde	10.3 ± 0.3ab	303.3bde
GMI423	206.5 ± 41.6a	461.8 ± 37.5a	12.5 ± 1.1a	680.9a
SA070712	67.4 ± 9.4bcd	276.3 ± 6.9bcde	10.6 ± 0.8ab	354.3bcde
HiFi	157.5 ± 29.4ab	283.8 ± 30.8bcd	7.6 ± 2.2abc	448.9abc
Legget	73.7 ± 10.2bcd	234.2 ± 8.9bcde	8.4 ± 1.1ab	316.3bcde
Morgan	176.1 ± 34.7a	325.9 ± 27.2ab	9.3 ± 1.1ab	511.2abc
Ronald AC	119.5 ± 13.8abc	295.1 ± 1.3bc	10.7 ± 1.9ab	425.3bcd
Triactor	158.0 ± 24.7ab	311.8 ± 47.4ab	8.9 ± 1.0ab	478.7ab

Presence of different letter between values indicated significant differences in content (p<0.05).

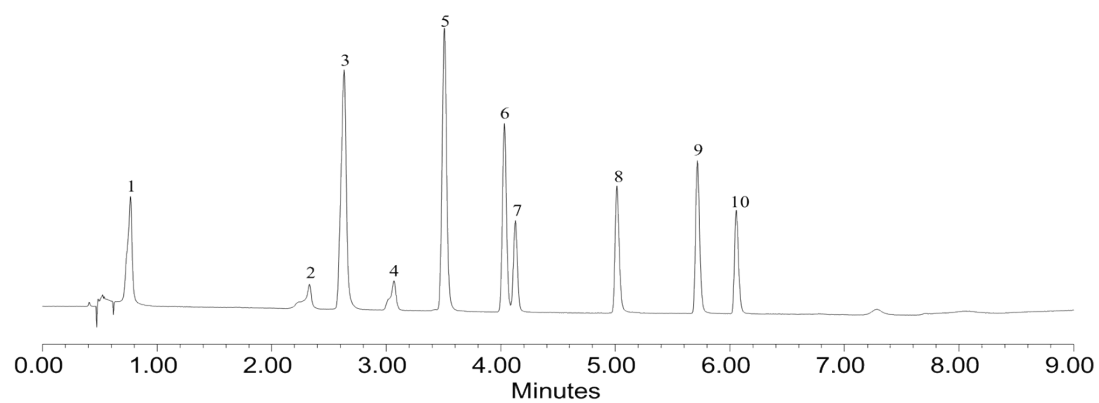
Supplemental Table 3. Intracellular phenolic content of Caco-2 model from selected oat samples

	intracellular content of phenolics (ng/mg)		
	ferulic acid	AVE A	AVE B
Dancer	0.35 ± 0.01cd	0.56 ± 0.06a	0.20 ± 0.02ab
GMI423	0.30 ± 0.03d	0.41 ± 0.02b	0.24 ± 0.02ab
SA070712	0.54 ± 0.01b	0.40 ± 0.02b	0.19 ± 0.004ab
whole grain oat flour	0.57 ± 0.001b	0.51 ± 0.03ab	0.18 ± 0.004ab
puffed cereal	0.94 ± 0.1a	0.20 ± 0.03c	0.27 ± 0.04a
snack bar	0.41 ± 0.03c	0.43 ± 0.02ab	0.16 ± 0.02b

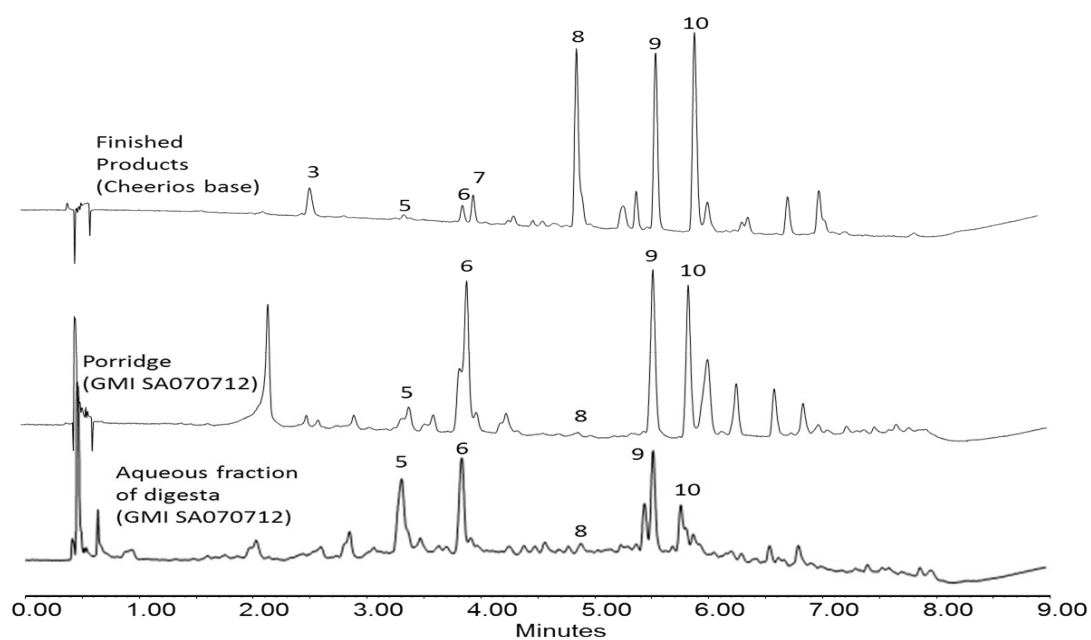
Presence of different letter between values indicated significant differences in uptake efficiency (p<0.05).



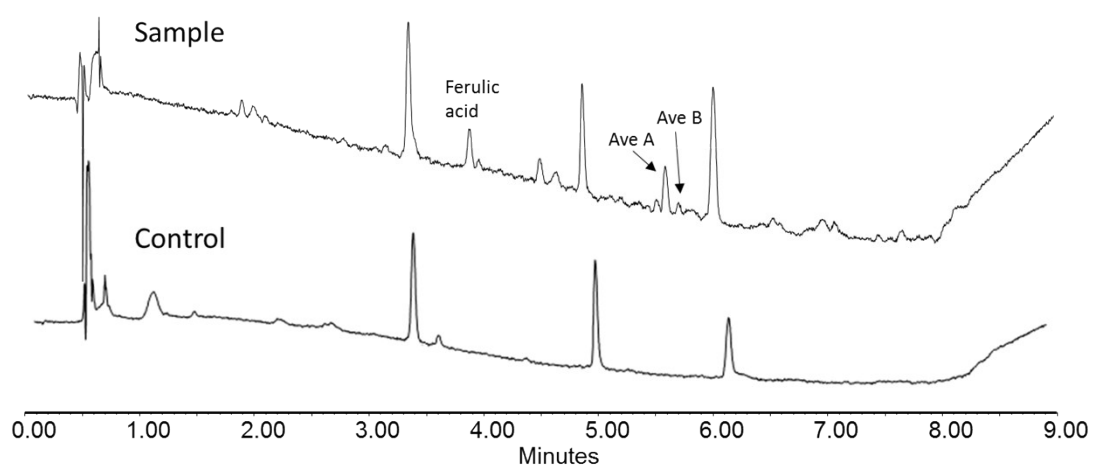
Supplemental Figure 1. Representative UPLC chromatogram of free (top) and bound (bottom) phenolic content from oat (Whole grain oat flour) at 280 nm. Peak identification: 1. gallic acid; 2. caffeic acid; 3. *p* coumaric acid; 4. ferulic acid; 5. sinapic acid; 6. AVE C; 7. AVE A; and 8. AVE B.



Supplemental Figure 2. UPLC separation of standard phenolic acids and avenanthramides with photodiode array detection at 280 nm. Peak identifications 1. gallic acid; 2. catechin; 3. caffeic acid; 4. epicatechin; 5. *p* coumaric acid; 6. ferulic acid; 7. sinapic acid; 8. AVE C; 9. AVE A; and 10. AVE B.



Supplemental Figure 3. UPLC chromatograms (320 nm) of phenolic acid and avenanthramide content for finished products, porridge, and aqueous fraction of digesta. Peak identifications: 3. caffeic acid; 5. *p* coumaric acid; 6. ferulic acid; 7. sinapic acid; 8. AVE C; 9. AVE A; and 10 AVE B.



Supplemental Figure 4. UPLC chromatograms (320 nm) of phenolic acid and avenanthramide content for cell extracts.